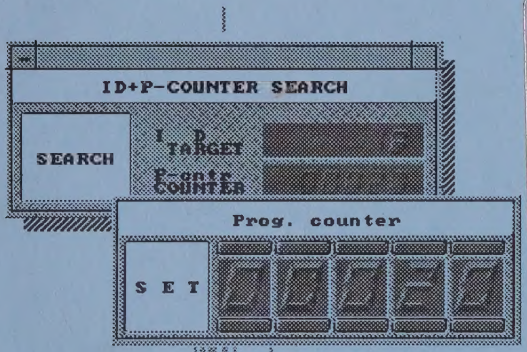
TEAC®

QuikVu RX

user manual



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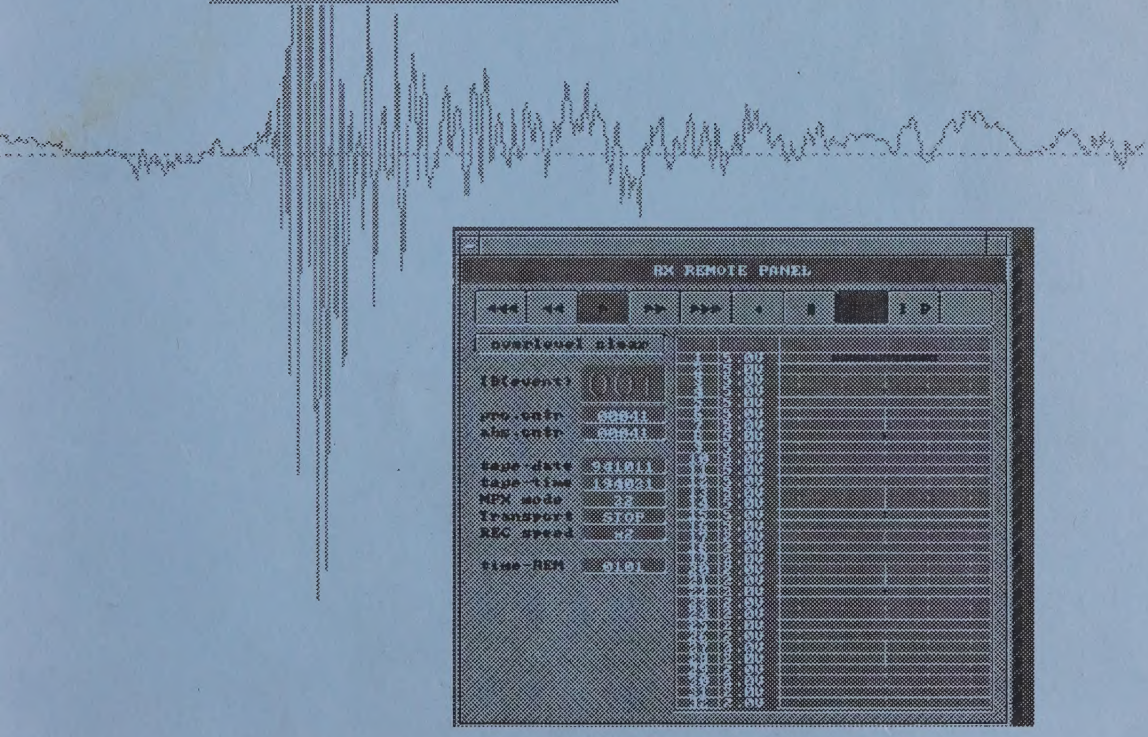

First Edition : April 15, 1996

Preface

This manual documents and describes in detail the TEAC America, Inc. ***QuikVu*** interface board and software. It contains instructions for installing the ***QuikVu*** interface board into a personal computer (PC) which, together with the software, allows the user to control a TEAC RX recorder (models RX-816, and RX-832) from the PC. Recorded data can also be transferred to the PC using ***QuikVu RX***. This manual is designed to provide all the information you need to effectively use this powerful system.

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This manual has been validated and reviewed for accuracy. The included sets of instructions and descriptions were accurate at the time of this manual's production. However, succeeding versions of ***QuikVu RX*** and manuals are subject to change without notification. Therefore, TEAC America assumes no liability for damages incurred directly or indirectly from errors, omissions, or discrepancies in the manual.

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Introduction to *QuikVu RX*

Introduction to *QuikVu RX*

QuikVu RX has been designed to provide a direct interface between a personal computer (IBM-AT or compatible) and TEAC's series RX data recorders. Once installation of the full-size board and software has been completed, a user can control the recorder via the PC and transfer recorded data from the recorder to the PC for monitoring or copying.

Hardware and Software Requirements

The minimum hardware and software required to successfully run ***QuikVu RX*** are:

The Computer
IBM AT compatible with ...

- 80486DX (33MHz) or higher
- RAM of 8MB or more
- A mouse (and drivers)
- VGA video card and monitor
- MS-DOS version 6.0 or higher

The Printer
Supported printers are ...

HP LaserJet with 2Mbytes memory
Canon BJ series
IBM proprinter X24
Epson 24 head LQ series

The Data Recorder
TEAC RX data recorder models ...

RX-816
RX-832

QuikVu RX Features

QuikVu RX gives you virtually complete control of your RX recorder using the PC. Specifically, you can:

Control tape motion and monitor status
Remotely controls recorder functions such as stop, forward, fast-forward, cue, rewind, review, record, pause, and absolute or program counter select. Monitors ID number, absolute or program counter, RX date and time, multiplex mode, tape transport status, tape record speed, and tape remaining time.

Search
Allows for positioning the tape at specific ID numbers, program and absolute counters; locate end marks and clock times.

Copy data to a PC file
Copies data from tape to the PC file with various conditions such as length, channel, decimation or data format.

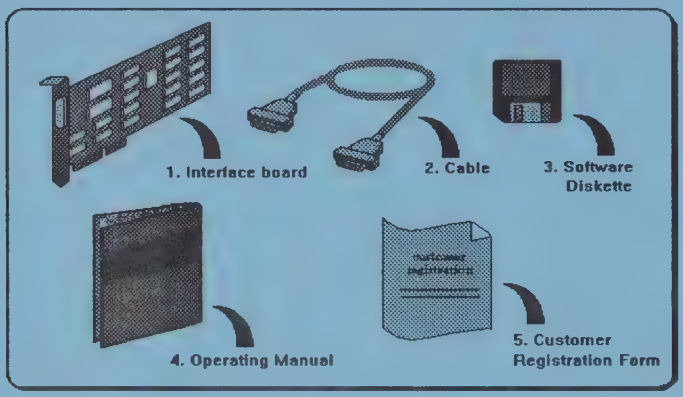
View tape data in real time or file data
Views data in real time for both RX tape data and PC data file.

Brief real time analysis and post analysis
Quick-look analysis data in either real time or post time.

Miscellaneous recording
Various type of intelligent recordings such as auto event marking, trigger, timer / interval recording are available.

Equipment List

Your ***QuikVu RX*** kit should contain one of each of the following items:



Caution: *The interface board contains electrical components that are sensitive to static discharge. IT SHOULD BE HANDLED WITH CARE TO PREVENT INJURY OR DAMAGE.*

1 ***QuikVu*** Interface Board
2 Interface Cable
3 ***QuikVu RX*** Software Diskette
4 Operating Manual
5 Customer Registration Form

Contact TEAC immediately if any of the above items are damaged or missing from your ***QuikVu RX*** kit.

If You Need Technical Assistance

If you have any technical problems or questions about installing or using ***QuikVu RX***, contact the Technical Support Department in the TEAC Information Products Division at any of the following numbers:

Tel: (213) 726-0303 ext. 734
Fax: (213) 727-7658
Attn: IPD / TEAC America, Inc.

Getting Started

QuikVuRX INSTALLATION INSTRUCTION

Enclosed is ***QuikVuRX*** version 3.00. Please make sure you have received the following material:

1. ***QuikVuRX*** PCB
2. User Manual
3. D-sub 25 pin Connecting Cable Assembly
4. Customer Registration Form
5. ***QuikVuRX*** Software Diskette - Disk 1 of 1

If any of the above items are damaged or missing, contact TEAC immediately.

SYSTEM REQUIREMENTS

To run ***QuikVuRX*** successfully, you must have a minimum system of:

1. 80486DX (33MHz) or higher performance PC with ISA bus
2. Extended memory of 8Mbytes or more.
3. A mouse (and a mouse driver)
4. VGA or SVGA video card and monitor
5. MS-DOS version 6.0 or higher
6. Printer - HP LaserJet with 2Mbytes memory, Canon BJ series, IBM proprinter X24 compatible or Epson 24 head LQ series.

SOFTWARE INSTALLATION

The INSTALL program is **NOT** provided. A user is required to perform software installation as follows:

1. Create a directory for the TEAC ***QuikVu*** in the fix drive, type:
   c:\qvrx
2. Copy all the file in the ***QuikVu*** diskette to a new QuikVu directory, type:
   copy a:*.* c:\qvrx
3. Add RAM drive device driver in "CONFIG.SYS", type:
   edit \config.sys [enter]
   [add line if any of these are missing]
   device=c:\dos\himem.sys
   device=c:\dos\ramdrive.sys "desired size" /e
   [save and exit the EDIT program]
4. Reboot the PC and go to the ***QuikVu*** directory, type:
   cd\qvrx [enter]
   rx800 [enter]

QuikVu Interface Board

HANDLE THE BOARD WITH CARE!

To discharge static electricity, hold the board in its bag in one hand and touch any metal portion of the computer chassis with your other hand.

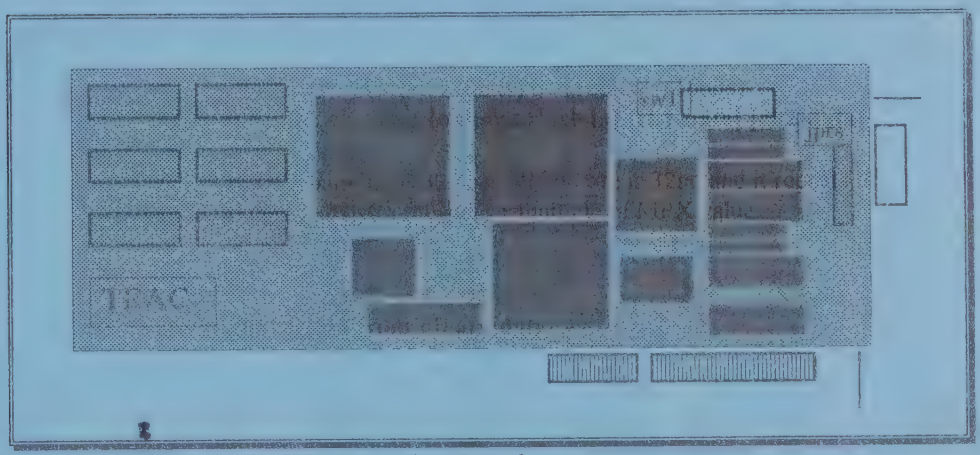


*Figure 2.01 The **QuikVu** Interface Board*

The board has been factory configured to operate upon installation in most computer systems

The default jumper or switch settings for the ***QuikVu*** interface board are listed below. Your computer system may contain accessory boards such as bus mouse, data acquisition boards that are already using the same "address" as the interface board. If this is the case, you will need to modify the ***QuikVu*** address configuration.

JUMPER/SWITCH	DESCRIPTION	SETTING
jp1 - jp2	PARALLEL CABLE	no jumper
jp3 - jp4	PARALLEL CABLE	no jumper
jp5 - jp6	TZ711 CABLE	jumper (default)
jp7 - jp8	TZ711 CABLE	jumper (default)
sw1	I/O base address, memory address, IRQ setting	260 hex, D800 hex, IRQ7 (default)

I/O base address	DIP switch position		
	2	3	4
200h	ON	ON	ON
210h	ON	ON	OFF
220h	ON	OFF	ON
230h	ON	OFF	OFF
240h	OFF	ON	ON
250h	OFF	ON	OFF
260h	OFF	OFF	ON
270h	OFF	OFF	OFF

If there is any board in your computer that uses 260 hex (default) for the base address, change the dip switch position on the ***QuikVu*** board. Seven alternate settings for the switch positions are shown in the table. The board will work with any of these.
(Default setting is 260h.)

Dual Port Memory address	DIP switch position
	1
D800h	OFF
D000h	ON

(Default setting is D800h. Please do not change this setting.)

IRQ setting	DIP switch position	
	7	8
IRQ5	ON	OFF
IRQ7	OFF	ON

(Default setting is IRQ5. Please do not change this setting.)

(DIP switch positions 5 and 6 are not used.)

Installing Board

Before opening the computer cover, be sure to take all necessary precautions for working on high-voltage equipment. To protect yourself and prevent damage to delicate system components:

- Turn off your PC and all peripherals and unplug all power cords.
- Disconnect all cables.
- Remove any jewelry from your hands or wrists.
- Use only insulated or non conductive tools.

To install the ***QuikVu*** board:

- Remove the cover of your PC to access the I/O slots of the PC.
- Select any available 16-bit accessory slot (ISA bus) and remove the accessory slot cover which faces the back of the machine by removing the single screw inside the plate and lifting the plate up.
- To discharge static electricity, hold the ***QuikVu*** board in its bag in one hand and touch any metal portion of the computer chassis with your other hand.
- Remove the board from the bag, handling it by the edges and without touching the edge connectors or components.
- Holding the board by the top edge, align it over the accessory slot so the edge connector is headed into the slot. Be sure the accessory cover plate slides into the slot on the back of the computer.
- Once the board is firmly inserted into the slot, screw it into the bracket using the screw removed from the slot cover. This grounds the board and prevents it from dislodging from the slot.
- Replace the computer cover and all cover screws. Reconnect all peripherals cables and power cords.
- Connect one end of the accessory cable (25-pin D-sub connector) to the ***QuikVu*** port on the back panel of computer; the other end should fit in the FORMATTER I/O port on the back panel of the recorder.

Installing Software

File Name	Function
RX800.EXE	main *QuikVu* program
RX800.HLP	help messages used in the main program
RX800.CNF	configuration parameters
$*.HST	miscellaneous recording log files
*.SET	library file
*.DAT	sample data files

To install the ***QuikVu RX*** software on your hard disk:

- Start up your computer system.
- Create a sub directory called "TEAC" on your hard disk.
  From the DOS prompt, type:

  md c:\TEAC

  and press the ENTER key
- COPY all the files from the diskette to your hard disk.

  For example, if the ***QuikVu RX*** disk is in floppy drive A and your hard disk is drive C, you would type:

  COPY A:*.* C:\TEAC [ENTER]

QuikVu RX can be launched from a floppy disk, however program execution speed is much slower because of the frequent disk access during the program run.

Refer to your DOS manual if you need more detailed instructions on creating sub directories and copying files.

Customizing System Files

Depending on your computer system's current configuration, you may need to make some modification to your CONFIG.SYS file. See your DOS manual for detailed instructions on updating system files.

RAM-drive configurations:

RAM-drive [MS-DOS 6.2 case]
If you have the **exTended** memory, you will need to update the CONFIG.SYS file to contain the following lines:

DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\RAMDRIVE.SYS "size here" /e (you may specify the size, e.g. 4096)
DOS=HIGH

If you have the **exPANded** memory, the CONFIG.SYS file should contain the following lines:

DEVICE=C:\DOS\EMM386.EXE X=D800-DCFF
DEVICE=C:\DOS\RAMDRIVE.SYS /a

Country code configurations (other than the USA user):

COUNTRY=001
Check your manual for the USA country code.

Refer to your DOS manual if you need more detailed instructions on modifying or updating your CONFIG.SYS file.

Getting Started

Once you have the ***QuikVu RX*** software loaded onto your hard disk, type:

cd\TEAC
and press the ENTER key, then type:

RX800
and press the ENTER key again.

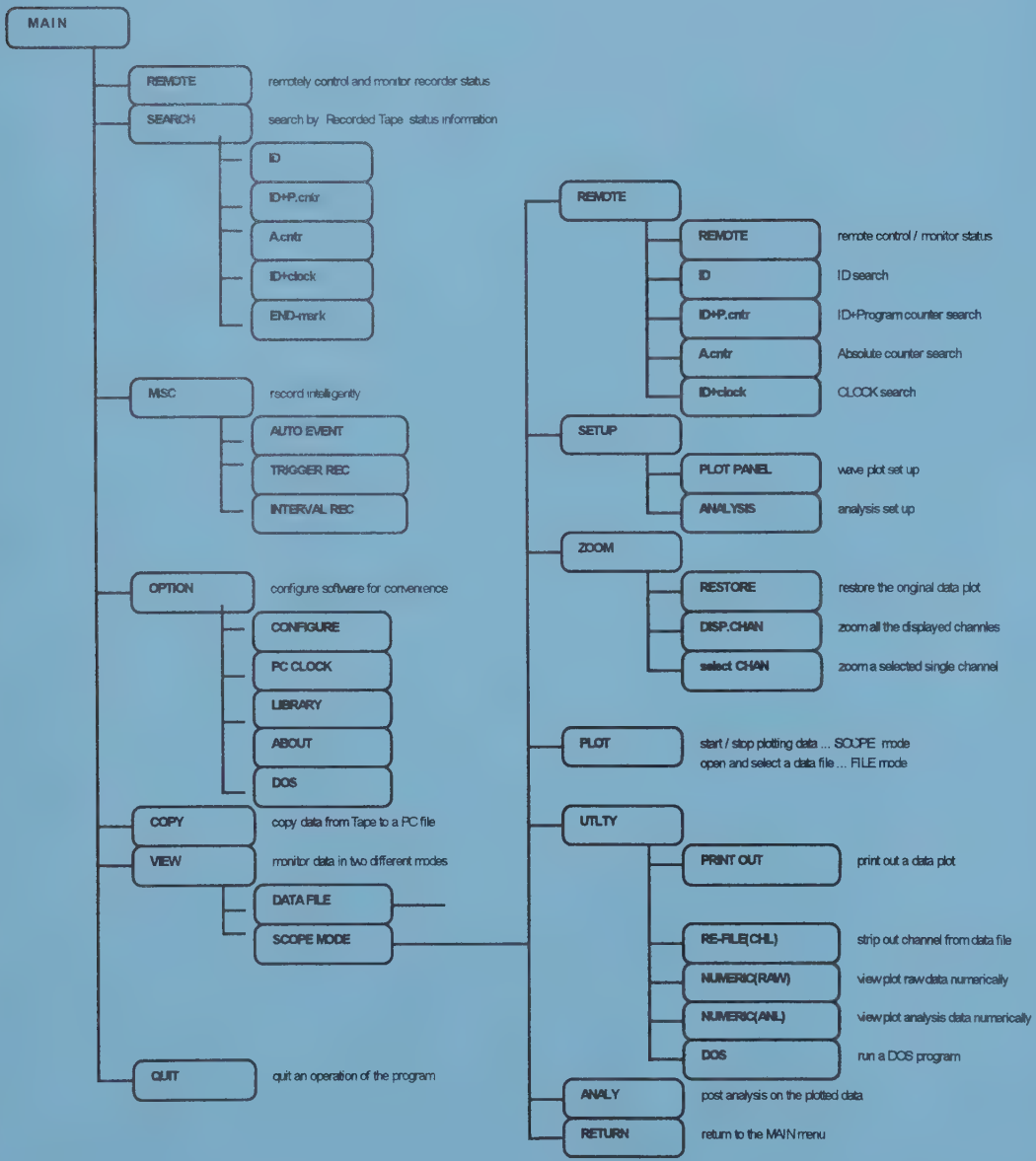
Note: The files, "RX800.SET" and "RX800.CNF" must be copied to the same directory as "RX800.EXE" resides.

Caution

Before launching (running) QuikVu RX (via command "rx800.exe"), please make certain that the RX unit to be controlled is powered ON, and the cable from the RX formatter I/O port to the QuikVu RX ISA card board is hooked up. Failure to follow this may result in a hung system, requiring the PC to be re-booted.

Quick Tutor

Menu Tree

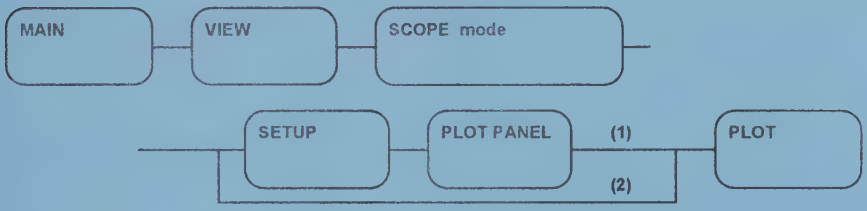

MAIN
REMOTE
remotely control and monitor recorder status
SEARCH
search by Recorded Tape status information
ID
ID+P.cntr
A.cntr
ID+clock
END-mark
MISC
record intelligently
AUTO EVENT
TRIGGER REC
INTERVAL REC
OPTION
configure software for convenience
CONFIGURE
PC CLOCK
LIBRARY
ABOUT
DOS
COPY
copy data from Tape to a PC file
VIEW
monitor data in two different modes
DATA FILE
SCOPE MODE
QUIT
quit an operation of the program
REMOTE
REMOTE
remote control / monitor status
ID
ID search
ID+P.cntr
ID+Program counter search
A.cntr
Absolute counter search
ID+clock
CLOCK search
SETUP
PLOT PANEL
wave plot set up
ANALYSIS
analysis set up
ZOOM
RESTORE
restore the original data plot
DISP.CHAN
zoom all the displayed channles
select CHAN
zoom a selected single channel
PLOT
start / stop plotting data ... SCOPE mode
open and select a data file ... FILE mode
UTLTY
PRINT OUT
print out a data plot
RE-FILE(CHL)
strip out channel from data file
NUMERIC(RAW)
view plot raw data numerically
NUMERIC(ANL)
view plot analysis data numerically
DOS
run a DOS program
ANALY
post analysis on the plotted data
RETURN
return to the MAIN menu

Following flow charts help you guide through some of the basic ***QuikVu*** operations

Remote control and status monitor

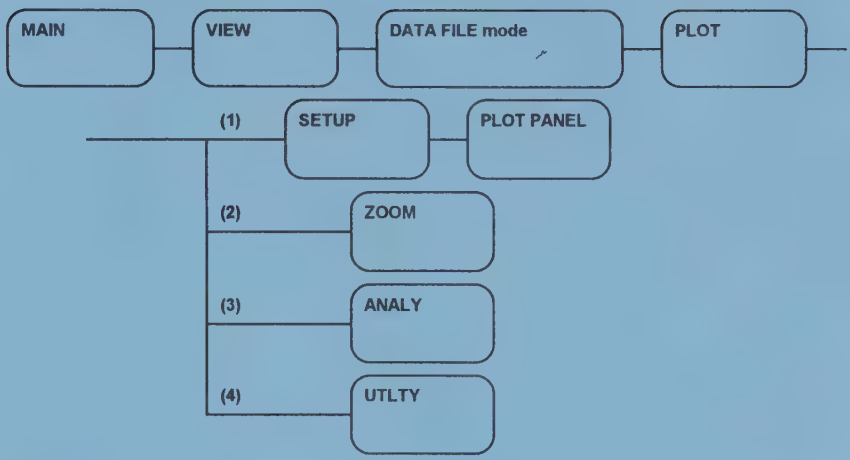
❑ Top switches control tape motion. Click any control button with the left mouse button and the recorder responds to your command.
❑ Updates ID, program or absolute counter value, tape date and time, MPX channel mode, recorded tape speed (x2), tape time remaining, and tape status as the recorder moves.
❑ Shows the recorded input range on the tape for each channel
❑ Shows channel activities in bar-meter indicator

View Tape Data in Oscilloscope Mode



- ❑ (1) is required for the first time to select following parameters in the plot panel menu:
  - display channel - highlight channel number to plot in green of 'CH' selection
  - horizontal time scale - select a desired 'H-scale' under 'TAPE SCOPE'
  - real time analysis channel and type - select 'Analy-CH' and 'Analy' under 'TAPE SCOPE"
  - on line meter - select a real time measurement meter type and channel
  - scope trigger mode - it works similar to the oscilloscope 'live' trigger mode.
  - plot axis - selecting a 'separate' causes all multiple channels plot separately (staggered) and 'overlay' causes to plot all channels on a single axes.
- ❑ From the second time, by-pass (1) and go to (2) for plot.
- ❑ For the plot panel set up detail, read the "SETUP" section in Chapter 5
- ❑ In the "DATA menu", the view mode can also be switched by pressing the SPACE key.

View Data File



❑ After plotting a file data, you can select channels to be displayed in the plot panel menu. (1)
❑ Selecting an area with two cursor lines and open 'ZOOM' menu. selecting 'DISP.CHAN' plots a selected area of all the currently displayed channels and 'CH-?' plots only a selected channel with a selected area. (2)
❑ Selecting an area with two cursors and open 'ANALY' menu. Select analysis channel and click analysis type, result will be plot at the bottom half of screen. The raw data and analysis data window size can be adjusted. (3)
note: For the file data analysis, zoom in an area until plot data is no longer decimated from the original file data., file data view mode manipulates the file data to show peak more clearly and not generates a true analysis result with decimated data.
❑ The 'UTLTY' menu offers you to print out, strip out a single channel from file data or view data value in numerically. (4)
❑ In the "DATA menu", the view mode can also be switched by pressing the SPACE key.

Data Copy To PC File

❑ Set up Data Copy menu:

path/file - type target file name with a complete directory name.
length - set length in counter value (counts) to be copied. Normal tape speed in the RX is x2, which amounts to a length equal to 2 counts per second.
auto # - leave it to 'OFF'
note: when this is set to 'ON', an incrementing number is added to file name every time data copy is executed.
skip data - set decimation number. setting '0' will not decimate data and '1' will skip one out of two sampled data.
note: there is no decimation filter (LPF) in the copy function. If you consider decimating data, please filter at the time of recording data with an external LPF.
format - *QuikVu* default format is the 'binary'. Other formats can be selected.
delimiter - for the 'binary' format, this is not applicable. Applicable for the 'ASCII' format.
channel - select all channels or any single channel to down load data.
memo - type remarks to be written to the data file header.

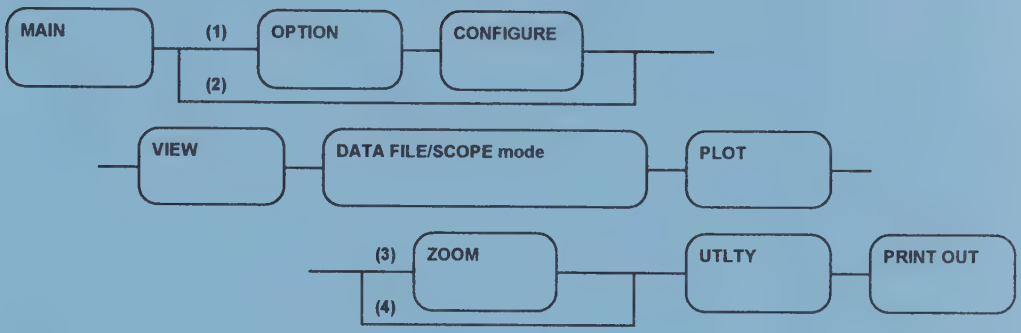
❑ Select Copy Trigger Mode

highlight 'ID+Prog.cntr' for the Copy Trigger Mode, and set ID and program counter value to start copying. Other trigger modes can be selected.

❑ Execute data copy

Click the 'START' key. Message block will indicate when data copy is complete.

Print Out Plot Data



❑ Select a printer type and connected printer port (1)

note: Print out can generates a print file "QV.PRN", use this file for printing out to one which is not currently hooked to your PC. To print out to a network printer , use this method.

❑ Zoom in plot area until entire plot becomes a print out target. (2)

❑ Set up print out menu: (3)

print channel - select 'all view channels' or selected 'single channel'.
output format - select 'plot wave' or 'analysis plot'.
print size - select '1/4-size' or 'full-size'. The '1/4-size is good for faster print out.
print layout - select 'downwards' or 'sideways' for multi channels print out.
print title - type in title which appears at top of print out form.

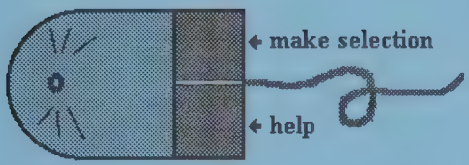
❑ Click the 'PRINT' key to print out.

note: Print out uses a RAM drive extensively and the RAM drive must be installed prior to the *QuikVu* operation.

Using *QuikVu RX*

Only three keyboard keys are active in ***QuikVu RX***; they are the ESC (or escape) key, ENTER and the F1 function key. Pressing F1 at almost any time in the program will activate the help screen. You can also get help for the current menu you are in by pressing the right mouse button. The ENTER key acts the same way as clicking the "SET" key in the menu with mouse. The ESC key cancels whatever the function you are currently in and returns to a previous menu.

Using Mouse



The only way to navigate through the ***QuikVu RX*** is with a mouse pointing device. Press the LEFT mouse button down and release it to select a ***QuikVu RX*** function. Press the RIGHT mouse button to see a "help" screen for the operation you are currently in. Pressing the "F1" will also access the help screens.

To begin, simply place the mouse cursor (arrow pointer) on top of the screen key and press the LEFT mouse button and release it. A sub-menu of options will appear.

As you progress through the menus and sub-menus, window boxes will appear in layers. To move a window box, move the mouse cursor to the upper bar of the window. Hold down the LEFT mouse button while you drag the box to the new location and release it.

When you use the mouse to select a "key", you will be shown a series of dialog boxes that will allow you to make changes to existing entries. Generally you will need to click the LEFT mouse button on the number or word that is currently displayed in a field in order to change it.

Using Thumb Wheel Switches

Figure 5-1 Thumb Wheel Switch

Numbers are changed with an on-screen "thumb wheel switch". Once you have clicked the cursor on a number that you would like to change, a numeric dialog box will appear.

The button above the LED digit will increment the digit, the one below will decrement it. Move the mouse cursor to the switch above (or below) a digit and click the LEFT mouse button until you get the digit you want. Repeat for all digits in the number.

Once all the digits are what you want, move the cursor to the "SET" switch to the left of the number and click the mouse left button. The ***QuikVu RX*** will automatically return to the previous dialog box and the new number will be displayed.

Using Keyboard

The keyboard is used primarily for entering text into the ***QuikVu RX***. Some fields such as "copy file name" in the data copy menu requires text responses.

The "F1" function key will provide the help screen for whatever function you are in. It works exactly like the RIGHT mouse button.

The ESC (or escape) key will cancel whatever activity you are in and return to the previous menu screen.

Main Menu

Main Menu

Figure 5-2 Main Menu

In this menu, you may:

1. remotely control and monitor recorder status.
2. search by embedded status information in RX tape, such as ID, counter or clock.
3. record intelligently using trigger conditions and timer.
4. configure software for convenience.
5. copy data from RX to PC to create a data file.
6. monitor data in two different modes; a data file in PC, RX data in scope mode.
7. quit an operation of the program.

REMOTE Function

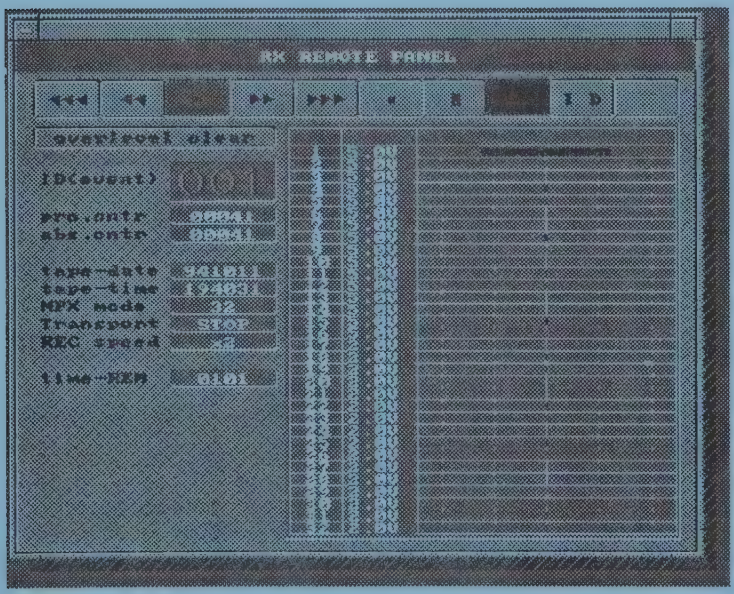


Figure 5-3 Remote Menu

To control the recorder, simply click a remote control key you wish to activate with the left mouse button.

Bar meters and input ranges will be shown in right portion of the box. The over level warning will be indicated audibly (if "other tone" is set to "on" in the configuration menu) and visibly. The visible indicator will stay on until you clear it by clicking the "over level clear" key.

Monitors recorder status in real time.

Table 5-A Remote Function

function	description
REWIND	Fast reverse (50 times reverse direction)
REVIEW	4 times reverse direction play
FWD	Play in forward at normal speed
CUE	4 times forward direction play
F-FWD	Fast forward (50 times forward direction)
STOP	Stop tape motion
PAUSE	Pause tape motion
RECORD	Record standby
ID	Increment ID number (event marker)

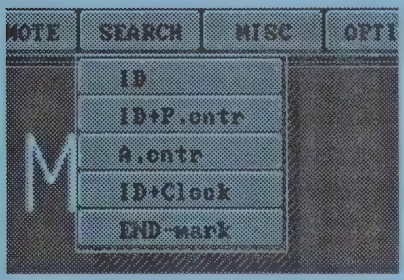
Term definition

- *Program counter* is the counter value from the beginning of each ID
- *Absolute counter* is the counter value from the beginning of the tape. If there is only one ID, the program and absolute counter value are the same.

Caution

Please do not move the mouse, while a mouse button click is activating one of the control buttons or closing the remote panel window.

SEARCH Function



Locates tape by search modes of ID number, ID + program counter, absolute counter, END mark, ID + RX clock time. Be aware that the ID + RX clock search requires the longer search time than other search modes. If you know the counter value to search for, try ID or counter search for a faster result.

Search instruction. Set a target number you wish to search for with the thumb wheel switch and you simply click the "SET" key.

Figure 5-4 Search Menu

ID search

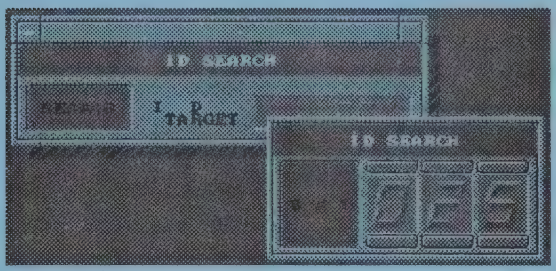


Figure 5-5 ID Search Menu

Searches for an ID number. To set a number, use the thumb wheel switch.

Parameters need to be set prior to this operation:

parameter	description
ID number	ID number to search (1 to 999)

ID + Program counter search

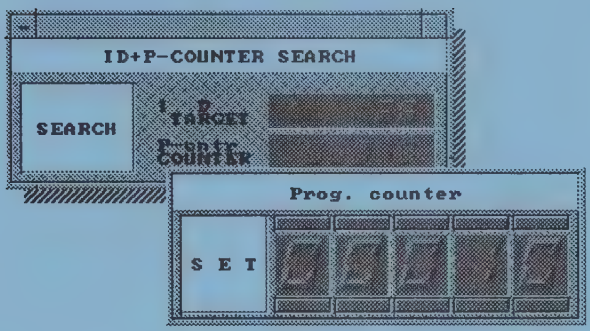


Figure 5-6 ID + Prog. counter Search Menu

Search for a program counter number within an ID number set here.

Parameters need to be set prior to this operation:

parameter	description
ID number	ID number to search (1 to 999)
Program counter	P. counter number to search (max 12000)

Absolute counter search

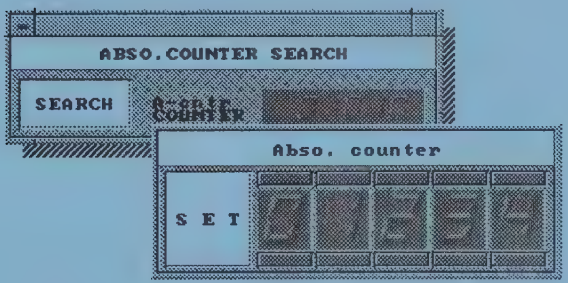


Figure 5-7 Abso. counter Search Menu

Searches for an absolute counter set without an ID. To set a number, use the thumb wheel switch.

Parameters need to be set prior to this operation:

parameter	description
Absolute counter	A. counter number to search (max 12000)

Note: Absolute counter starts at beginning of the tape and continues to the end. If there is any unrecorded gap on the tape an approximate counter location will be given (as indicated by a "." before the counter time on the RX unit screen).

ID + Clock search

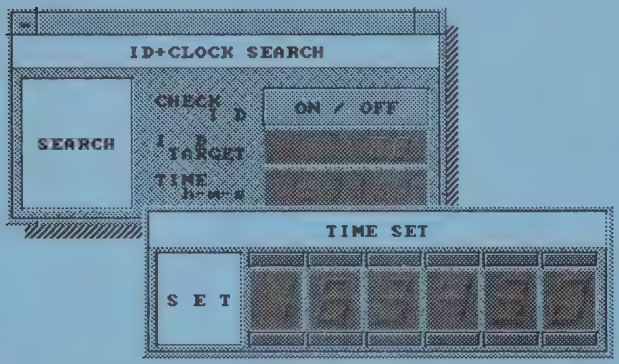


Figure 5-8 ID + RX time Search Menu

Searches for an ID (option) and time recorded. To set a number, use the thumb wheel switch. Because the time is read from the tape in reproduction mode only and results in longer search time.

Parameters need to be set prior to this operation:

parameter	description
ID number (option)	ID number to search for (1 to 999)
RX recorded time	time on the tape to search (hr/min/sec)

(Note : For "ANY ID", you can also select a DATE after TIME setting.)

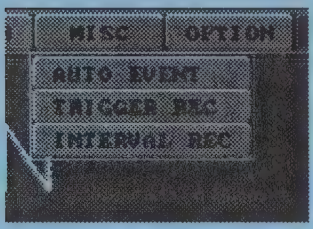
END mark Search

Figure 5-9 END Mark Search Menu

Searches for an END mark which has been recorded at the end of last recording by pressing the E.MARK on the recorder front panel. If end mark not recorded then search is for end of data, or end of tape.

Note: The **END mark** must be recorded before ending the previous recording to perform this search.

MISC. recording Function



These miscellaneous recordings add some convenient enhancement features to a recording such as auto event marking, start and stop by a input signal trigger condition, timer or interval timer set recording.

Recording instruction. Set a trigger and other recording condition with the thumb wheel switch, you simply click the "START" key.

Log File will be created for all the miscellaneous recording (Figure 5-12). It keeps a history of your recordings by ID number, counter value, record start date, time and the end of each event occurrence. It can be seen by clicking the "view log" key.

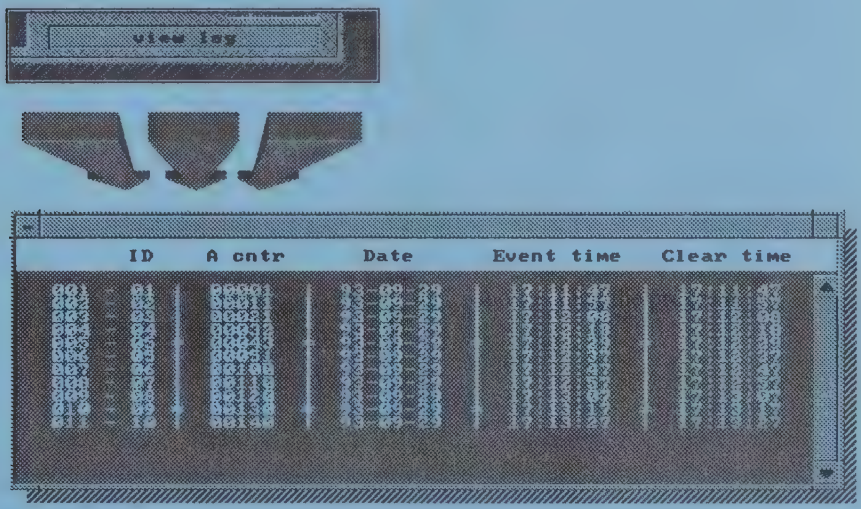


Figure 5-12 Recording History Log Menu

Auto Event (auto ID increment)

Stamps an event during record automatically every time the input signal meets the event trigger condition. To set a number, use the thumb wheel switch.

Parameters need to be set prior to this operation:

Figure 5-13 Auto Event Recording Menu

parameter	description
trigger watch channel	select one of channel 1 to channel 32
trigger level	-99% to + 99% of input scale
trigger edge	"↑" above or "↓" below trigger level

Example: Suppose you want the system to stamp an event mark with a signal of "+1.5V" or higher in 2V input range setting. The setting will be:

- 1.5V ÷ 2.0V x 100% = 75% (trigger level)
- "↑" (triggered above trigger level)

Trigger record start and stop

Figure 5-14 Trigger Recording Menu

Starts and stops recording automatically every time the input signal meets the trigger condition. To set a number, use the thumb wheel switch.

Parameters need to be set prior to this operation:

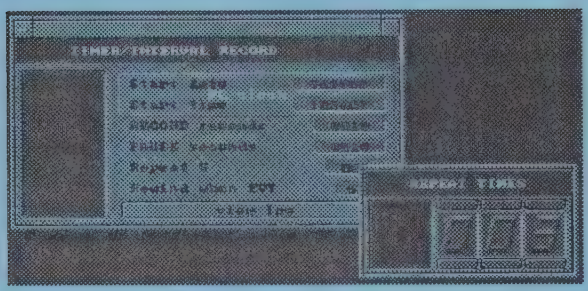
parameter	description
trigger watch channel	select one of channel 1 to channel 32
start trigger level	-99% to + 99% of input scale
start trigger edge	"↑" above or "↓" below trigger level
stop trigger level	-99% to + 99% of input scale
stop trigger edge	"↑" above or "↓" below trigger level
stop delay second	0 to 99 seconds of delay before termination

Example: Suppose you want to start recording at "+1.5V" or higher and to stop recording at "+1.0V" or lower with 5 seconds of delay before stopping, in 2V input range setting. The setting will be:

- ☐ 1.5V ÷ 2.0V x 100% = 75% (start trigger level)
- ☐ "↑" (above start trigger level)
- ☐ 1.0V ÷ 2.0V x 100% = 50% (stop trigger level)
- ☐ "↓" (below stop trigger level)
- ☐ "5" (stop delay)

Note : This function is independent of the External Trigger function programmed on the front panel of the RX recoder.

Timer and Interval recording



Starts and stops recording automatically with timer. To set a number, use the thumb wheel switch.

Parameters need to be set prior to this operation:

Figure 5-15 Timer / Interval Recording Menu

parameter	description
start date	year/month/day (921225=25 Dec., 1992)
start time	hour/minute/second (103045=10:30:45)
record seconds	recording length in seconds (9999 max)
pause seconds	stopping length in seconds (9999 max)
repeat number	record repeat times (999 max)
rewind when EOT is detected	yes / no

Example: Suppose you want to start recording at October 18, 1992 at 10:22:45 for 60 seconds, and stop for 3540 seconds, meaning that it records 1 minute every hour, and repeat this process for 50 times. The setting will be:

- ☐ "921028" (start recording date)
- ☐ "102245" (start recording time)
- ☐ "0060" (recording length in second)
- ☐ "3540" (stopping length in second)
- ☐ "050" (repeat times)
- ☐ yes or no (rewind at EOT)

Note: Record start date and time are ones from your PC system clock and **NOT** from the RX recorder clock.. Be sure that the RX recorder clock matches to the one in your PC system clock.

OPTION Function

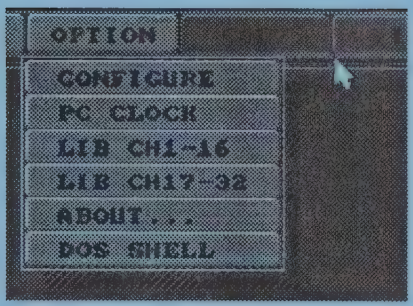


Figure 5-17 Option Menu

Software configuration and some miscellaneous functions such as PC clock time, library, and about this software can be selected from this menu.

Configure

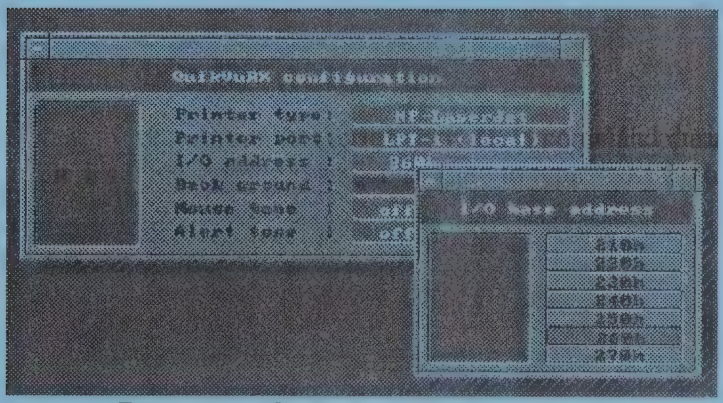


Figure 5-18 Configuration Menu

I/O address will match the interface board DIP switch setting. For the DIP switch setting detail, please refer to the "*Installation section*" or "HELP" screen in the program.

parameter	description
printer type	HP LaserJet, Epson LQ(24pin) or Canon BJ10 series
printer port	LPT-1 local, LPT-2 local or print file "QV.PRN"
I/O address	interface base address (default is ***260hex***)
back ground color	software wall color (no affect on print or plot wave)
mouse tone	mouse click indicator
alert tone	error, warning or completion of operation indicator

NOTE : The HP LaserJet printer must have **2 Mbytes** of enhanced printer memory to print out from *QuikVu RX* program.

NOTE : The program uses the Epson ESC/P(R) commands with 8 pin dot mode for the dot matrix or the PCL printer language commands with raster graphics mode for the HP LaserJet.

PC system clock

PC clock is displayed for your convenience. Clock number is arranged as

Figure 5-19 PC Clock Box

" month (2 digits) - day (2 digits) - year (2 digits) hour : minute : second".

Library

Figure 5-20 Library Menu

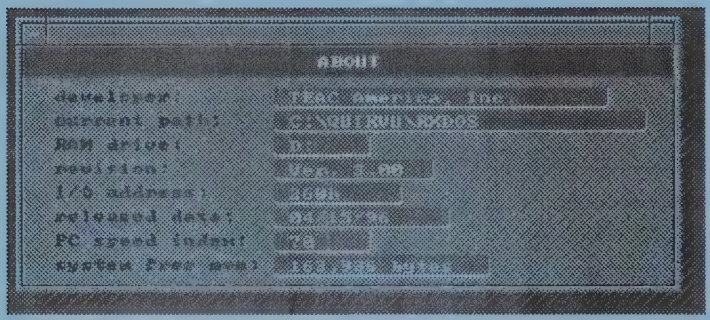
You may have tapes recorded under many different set-ups. To ease your data view and measurement, the ***QuikVu RX*** can store as many as 99 libraries which store channel labels, channel unit labels, physical unit conversion tables, copy file name and almost all the parameters used in every dialog menu in the program. You can simply open a appropriate library you wish to use and the *QuikVu RX* is configured accordingly.
Any change during the program run will be saved into the currently library at the time of exiting the program.
The default library file is "RX800.SET" and this file must reside in the current *QuikVu* working directory.
Note : Library Menu LIB CH1-16 is for channels 1 to 16.
Library Menu LIB CH17-32 is for channels 17 to 32.

Parameters may be modified:

parameter	description
channel label	up to 7 letters
channel engineering unit name	up to 5 letters
channel Eng. unit conversion table	cursor reading or analysis uses this table to get an actual engineering (physical) value. requires coefficient of 'a' and 'b' in the equation 'a'X + 'b' eg) if 'a' = 1000.0 and 'b' = 0.0, type *1000.0+0.0
channel gain	up to 400 time gain. affects to view only
channel zero offset	+/- 99% of full range. affects to view only
data file view directory	directory that data files are stored
library memo	your remarks for the library

"DUPL' or **"DUPLICATE CH1 > all"** key copies channel-1 parameter to all other channels.
'OPEN' lets you select other library from previously created by you.
'SAVE AS' lets you save library in new name.

About



Displays miscellaneous information on the ***QuikVu RX*** software that customers might be asked for during a technical support call.

Figure 5-21 About Box

DOS shell

If you want to perform any DOS command during *QuikVu* operation, you may do it from this menu. Be sure to type "EXIT" to return to *QuikVu* program.

COPY Function

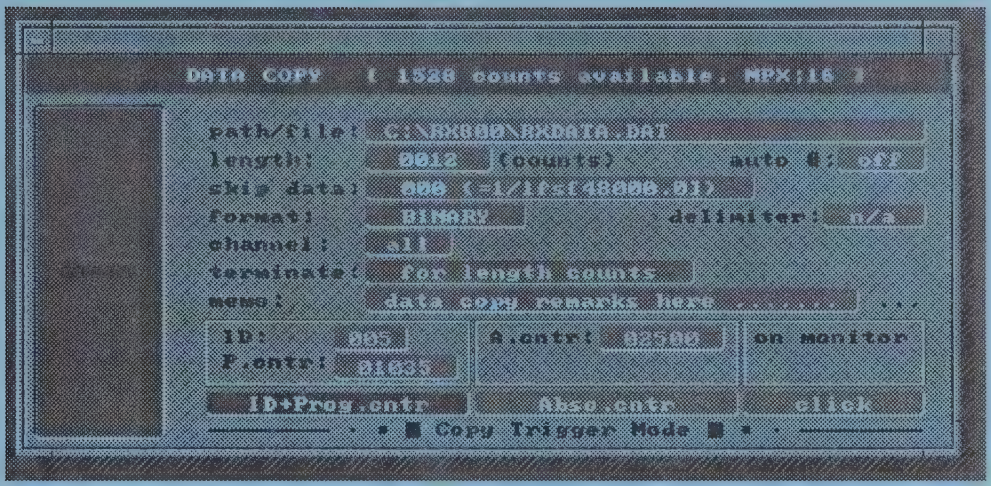


Figure 5-22 Data Copy Menu

Copies RX data to a PC file. Data is copied to a PC file via the a PC RAM drive. The recorder pauses every time the RAM drive becomes full and re-start after RAM drive contents is flushed into the PC file. This process is repeated until total size of data specified in the "length (counts)" is copied.

Data transfer size is limited by the PC data storage media such as a hard disk but **not** limited by the RAM drive size used as a temporary buffer.

Recorder status is **NOT** restricted in order to perform data copy. It works in the "record / forward" and the "record / pause" mode as well as the "forward play" mode.

Note: You must have a "RAMDRIVE.SYS" installed in your "config.sys" before performing this operation.

Three copy modes are available, choose for your best convenience.

copy mode	description
ID + P. counter	starts copying data from tape location at the ID and the program counter value
absolute counter	starts copying data from tape location at the absolute counter value
on monitor	during data monitor, such as scope mode, starts copying data by clicking L+R mouse button.

Parameters need to be set prior to this operation:

parameter	description
path / file	target file name to be created in PC. This must include a drive name, existing path name and file name with "DAT" extension such as "C:\TEAC\DEMO.DAT"
length (counts)	data copy length in counter values (1 to 9999) The "counts" is read from the recorder counter, thus a double speed makes a copying time into a half of normal speed for the same amount of copy length.
auto #	a number is added to the file name and incremented every copy execution. *Example:* if you type "c:\teac\kash.dat" for the "file/path" and set the "auto #" on, each copy execution creates following files: 1 - c:\teac\kash1.dat 2 - c:\teac\kash2.dat 3 - c:\teac\kash3.dat ... and continues until: □ re-assign a new file/path name □ exiting a program
skip data number	decimation factor (0 = no decimation; max 999). If you are dealing with slow changing signal such as temperature or pressure, you may want to sample at a slower rate when you copy data to a PC file. The low pass filter is not incorporated in decimating operation. *Example:* If you want to sample at 1/100 of original RX sample rate, skip number you need to set is: 100 - 1 = 99

data format	**binary** - ***QuikVu RX*** standard format (Intel CPU format). This is the only format ***QuikVu RX*** can read. **byte swap binary** - Motorola CPU format, good for reading with Motorola CPU based workstation. *Note:* all the binary format creates 512 bytes of header at the top of data file. **ASCII-integer** - value is the same as the binary format but converted to an ASCII format. **ASCII-voltage** - similar to the "ASCII integer" but an ASCRX integer value is converted to voltage. *Note:* All the ASCII format creates the separate header file with the "HDR" extension. ASCII format can be read by spreadsheet type program as Lotus 1-2-3. **MATLAB** - MATLAB Level-1 MAT-file format. **DADiSP** - DADiSP format. Creates a separate ASCII header file and binary data file. **snapmaster** - HEMs snapmaster standard binary format. Creates separate reference (.HDR) and data (.SMA) files.
delimiter	data separating character in the ASCII-I, -V format. Select one from comma, space, semi-colon, tab and equal sign.
channel	copy data channel (0 = all channels or 1 through 32)
terminate	data copy terminating condition. The “for length counts” copies until counts value set at the ‘length’ matures and the “at new ID” terminates data copy depending on whether a new ID or length count was encountered first.
ID	copy start ID number
Program counter	copy start program counter value. Program counter is the time from beginning of each new ID.
Absolute counter	copy start absolute counter value. Absolute counter is the time from beginning of tape
memo	data file memo. This is embedded in the header and viewed with DOS "type" command.

VIEW Function

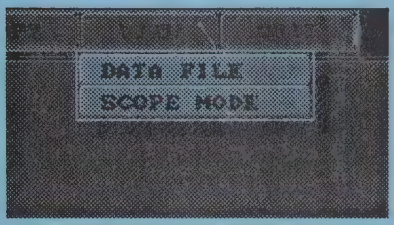


Figure 5-23 View Menu

Two view modes are available.

view mode	description
data file	view a data file previously copied from RX tape. view area can be zoomed in as many time as you wish until view points reaches 10 points per channel.
scope (tape)	view a tape data in oscilloscope image via interface card in real time.

QUIT Function

Figure 5-24 Quit Menu

Exit the program by clicking "O K". Click "CANCEL" to abort exiting the program.

Data Menu

Data Function Menu

Figure 6-1 Data Menu

In this menu, you may:

1. remotely control the recorder, monitor status and operate searches.
2. configure plot panel and analysis.
3. zoom in plot data.
4. start / stop plot data.
5. utilities to print out, temporary save or view numerically on the data plotted on screen, stripping out a single channel from original data file.
6. perform post analysis on the plotted data.
7. return to the "Main Menu".

Size of the raw and analysis plot on the screen can be adjusted by dragging a analysis box top bar shown in Figure 6-2.

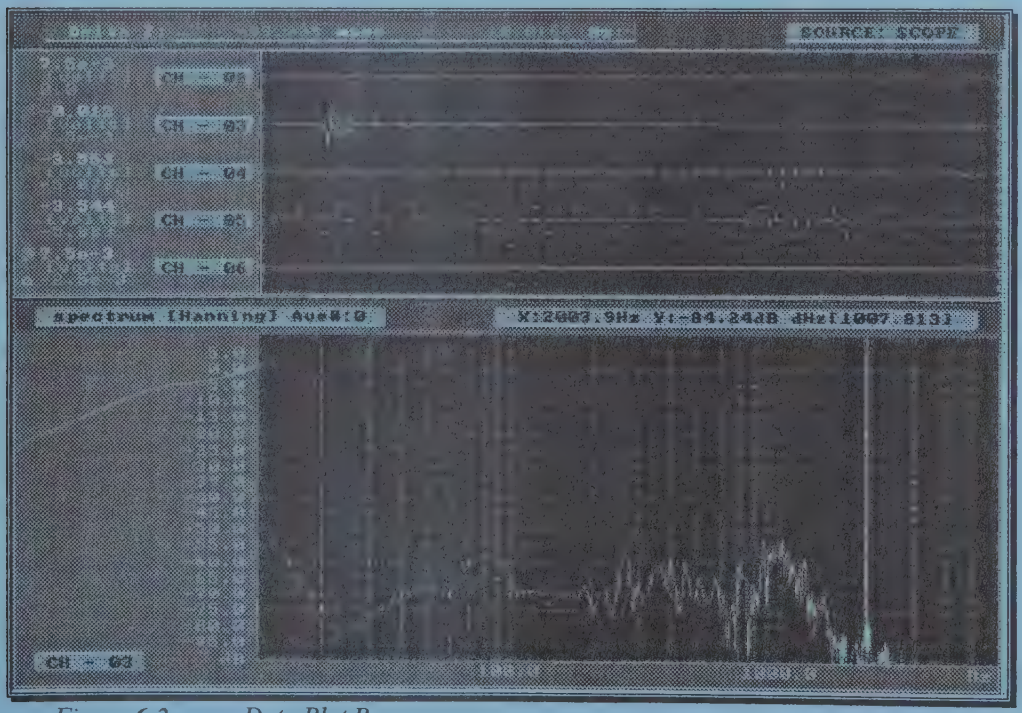


Figure 6-2 Data Plot Box

Each view mode has a separate bottom panel and they look as follows:

"SAMPLES" indicates the total displayed data volume per channel.
"MPX" indicates the multiplex mode of the displayed data.
"MIN volts" indicates the minimum value of the displayed data of specified channel in the "PLOT PANEL" menu. The "MIN" can be changed to one of meter modes; "AVE","RMS","MIN and "MAX". For the detail, refer to the "PLOT PANEL" section.

Bottom Panel (FILE)

"Samp/sec/ch" indicates the sampling rate for the plot only. Because the data file normally holds a large amount of data and it is not practical to plot all the data on the screen, it decimates (thin) data to plot on the screen.
"File" indicates the file name of the data currently displayed.

Bottom Panel (SCOPE)

"Sample/sec/ch" indicates the sampling rate for the plot only. In scope mode, data is sampled at RX sample rate except for the "1 sec time scale" in which data is decimated for plot.
"Tscale" indicates the horizontal full time scale.
"TRIG No" indicates n/a (not applicable), as scope mode is for live trigger.
"ID" indicates the current ID number playing back from the tape.
"P-cntr" indicates the current program counter value playing back from the tape.

CHANNEL SET UP

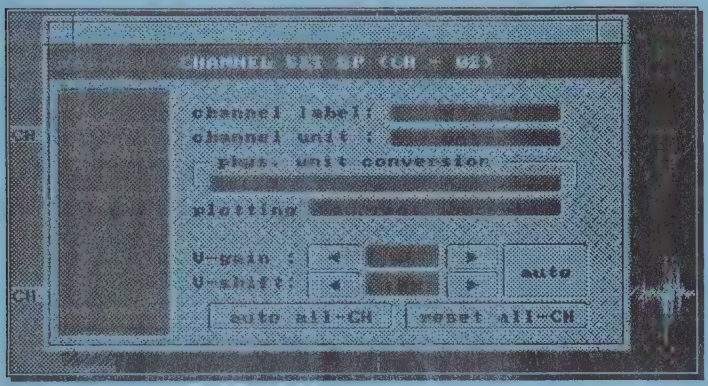


Figure 6-3 Channel Set Up Menu

Clicking a channel label (button switch-look label located at the left end of each channel signal plot) causes to open this menu. A channel label, engineering unit, physical unit conversion table can be modified for each channel. A gain and zero offset can be manually or automatically adjusted. For the auto gain and zero set, you can adjust for the either a selected channel or all-channel from this menu. Resetting a gain and zero for all the channels work in the same manner. Auto gain and zero offset works very close to what you expect it to, however your fine adjustment is recommended manually afterward.

channel label - type a channel label name (7 characters max).
channel engineering unit - type an engineering unit name for the channel (6 characters max).
physical unit conversion - type a conversion equation to get a engineering unit.

NOTE : Math operators that apply to the physical unit conversion are

multiplication : *
division : /
addition : +
subtraction : -

A math operation is executed from left to right regardless of math operation priority. "(" or ")" is not valid.

Example: If a signal represents 20.6 degrees per 1V and reading 1.2 degrees offset at 0V, a physical unit conversion table should be:

" * 20.6 + 1.2 " meaning that you multiply 20.6 to a RX recorded signal and add 1.2 offset degrees at 0V.

The *QuikVu RX* automatically converts raw data into the correct voltage regardless of input range selected.

REMOTE Function

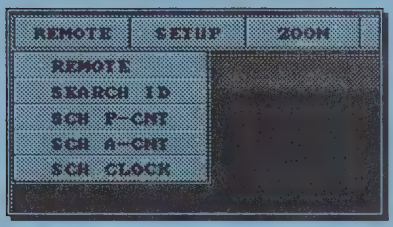


Figure 6-4 Remote Menu

This menu lets you access five tape transport control sub-menus; **remote control / monitor panel**, and four **search** functions such as **ID**, ID + Program counter, Absolute counter and **CLOCK** search.

For the detail of each operation, refer to the section in "Main" menu.

SETUP Function

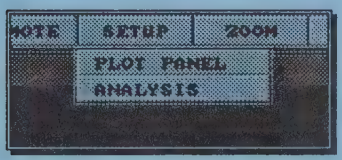


Figure 6-5 Setup Menu

This menu lets you access two set up sub-menus, data plot panel and analysis. Before plotting data or performing analysis, configure parameters in these sub-menus.

PLOT PANEL

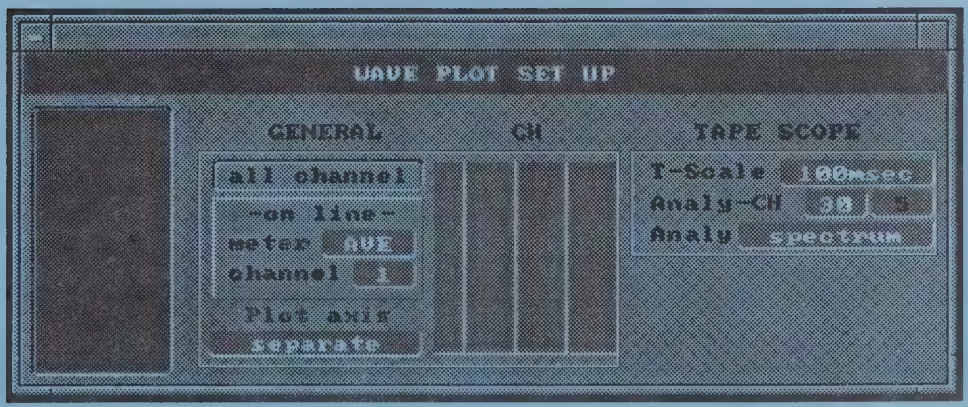
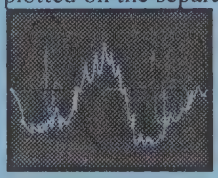


Figure 6-6 Plot Panel Setup Menu

General and CH parameters must be set prior to **any** view mode.

When monitoring data in scope mode, the horizontal time scale can be modified by clicking top menu keys shown in figure 6-7. Clicking the left mouse button increments and the right one decrements the set value. The gain and zero offset can be auto adjusted and reset during data plot as well.

Figure 6-7 Data Top Menu During Data Plot

parameter	description
all channel	this key first sets all 2 channels then 4, 8, 16, 32 and none of channels and repeats.
meter	you can measure "AVE", "RMS", "MIN" or "MAX" value while plotting data. Make one selection out of four choices.
channel (meter)	channel to be measured for the meter selection above.
plot axis	multiple channel can be plotted on the separate or overlaid axis. **separate axis**  **overlay axis**
plot channel	select data plot channel(s) by high lighting in green
scope H-scale	select a horizontal time scale from 5, 10, 50, 100, 500 and 1000 msec.
analysis channel	virtually real time analysis can be plotted in **scope mode**. The screen is divided into two, a top half displays raw tape data and a bottom half displays analysis data. select a channel to be analyzed.
analysis type	select an analysis type.

ANALYSIS

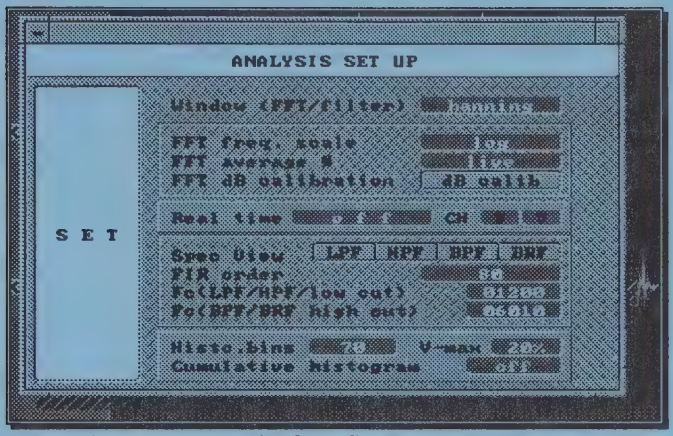


Figure 6-8 Analysis Setup Menu

Analysis result is not guaranteed for precise measurements. We recommend the use of ***QuikVu RX*** analysis to get a rough estimation or "Quik Analysis" confirmation of your collected data.

Prior to Scope View with analysis or Post analysis, make any necessary changes in the analysis menu.

parameter	description
Window	select a window type used in the FFT and FIR filter from Rectangular, Hamming, Hanning and Blackman.
FFT freq. scale	select either linear or log scale
FFT averaging #	set a FFT averaging number from 0 (= no averaging) to 200. After 200 sample are completed, plot pauses.
FIR filer order	select filter order (taps - 1) from 10, 20, 40 and 80.
Real time	select a real time analysis type for the scope mode
CH	select (a) channel(s) for a real time analysis
Freq. cut (low)	set the cut off frequency of the LPF, HPF, low side of BPF and BRF.
Freq. cut (high)	set the cut off frequency of high side of the BPF and BRF
Histo.bins	select Histogram bin numbers smaller than 500
V-max	Histogram vertical maximum scale in '%'
Cumulative histogram	select the Cumulative histogram (on) or normal single plot (off) histogram

Note : FFT frequency response is based on the time scale selected for the plotted data. See chart on Appendix page C-2 for additional information.

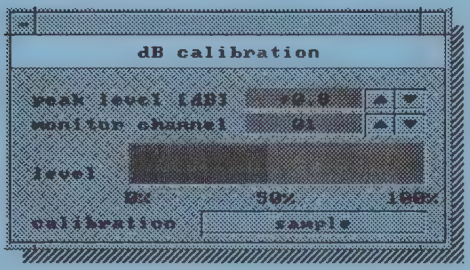


Figure 6-9 dB Calibration Menu

The dB Calibration for power spectrum calibrates the spectrum vertical scale to the correct reference in dB. If you have a reference signal either on the tape or outside source, you can calibrate ***QuikVu RX's*** zero dB (with offset if necessary) to the reference signal.

parameter	description
peak level	set a reference value in dB of the calibration signal. (offset range: ± 99.9 dB)
monitor channel	set a channel where calibration signal resides.

FIR Filter Spec View is prepared to view the characteristics of any FIR filters.

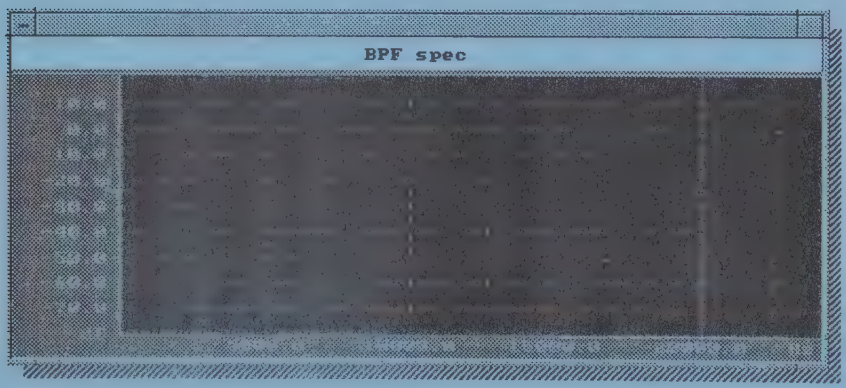


Figure 6-10 FIR filter Spec View Box

To view the spec, simply click one of the "spec view" filter types.

ZOOM Function

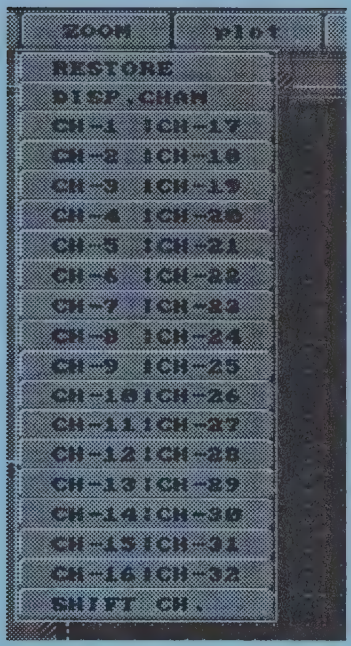


Figure 6-11 Zoom Menu

Displayed raw data can be zoomed in for a closer look. Already zoomed data can be zoomed in as many times as you need until the total data volume becomes less than ten data points per channel.

"**DISP. CHAN**" displays all the channels currently displayed.

"**RESTORE**" restore the original data plot before the first "zoom in" was performed.

"**CH-1**" to "**CH-32**" plot a selected single channel zoomed.

"SHIFT CH." shifts from CH-n to CH-n+16 in MPX 32 mode, where n = 1 to 16.

Start/Pause Function

This key toggles between "plot" and "pause" every time you click the key. During data plot, it is shown as "pause" until you terminate a plot by clicking it again.
In File View mode, after clicking "plot" key, the **"open and select file"** menu (Figure 6-12) appears to allow a file selection to view.

READ FILE

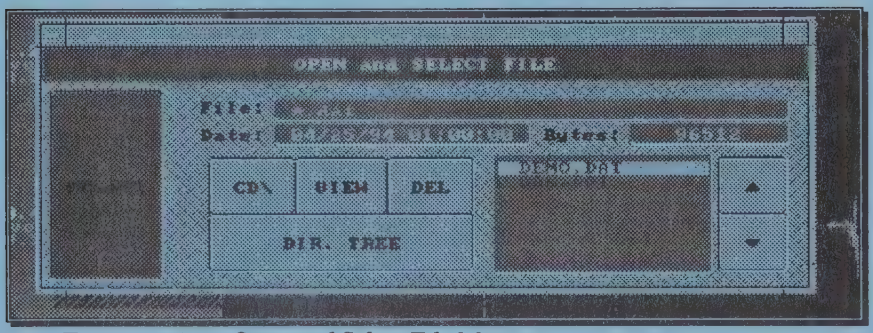


Figure 6-12 Open and Select File Menu

NOTE : This menu has a "view" feature to glance at the data file headers which contain the recording conditions or ASCII formatted data file as shown in Figure 6-13. The directory tree is also available to review your file directories for your conveniences.

HEADER VIEW is available to check the data file you are attempting to open.

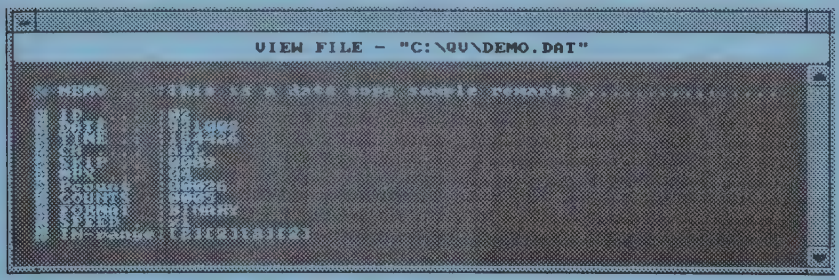


Figure 6-13 Data File Header Box

UTLTY Function

Figure 6-14 Keep Menu

This menu lets you access **print out**, channel strip out menu, **RE FILE(CHL)**, view plotted data numerically and DOS shell sub menus.

PRINT OUT

Displayed raw data and analysis data can be printed out to either HP-LaserJet or Dot matrix printer, however, the HP- LaserJet printer is highly recommended for a better print out result.

NOTE : HP LaserJet printer requires 2-Mbytes of memory and **"page protection mode"** is recommended to be turned off for the print out. Otherwise you might get only a portion of the page printed out.

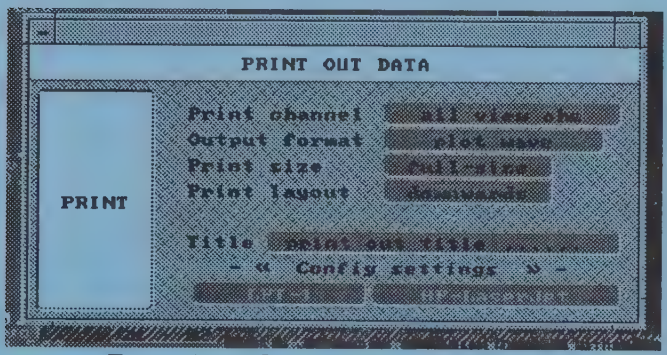
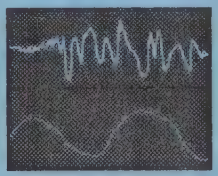
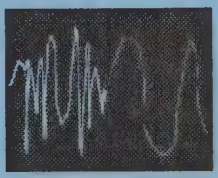


Figure 6-15 Print out Menu

Printer type and port number must be configured in the "CONFIGURE" menu under the "OPTION" menu before starting this operation.

parameter	description
print channel	select either all channels or any channel to print out.
output format	select one from raw or analysis data to print out.

plot size	select full size or 1/4 size (faster but small print out)
print layout	select a print layout.   **downwards** **sideways**
title	type your own title (max 22 characters) for the print out.

RE-FILE (CHL)

A single channel can be stripped out from all- channel data file in this menu. This is good when you attempt to create a single channel data file(s) all time aligned. First create a all-channel data file, then extract desired channel(s) by using this menu. All the new file data starts at the same timing and sampled at the same timing.

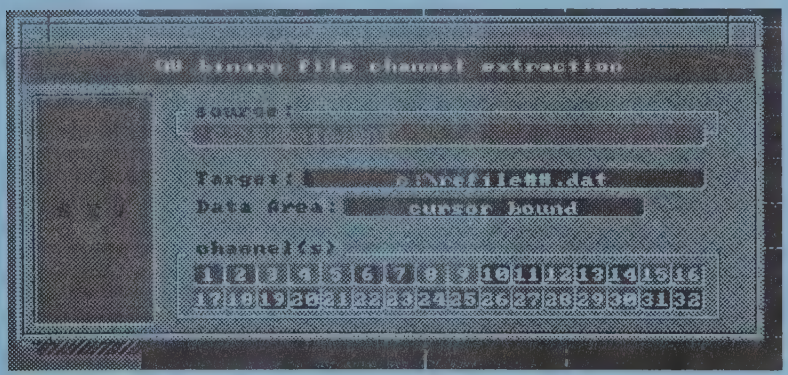

00 binary file channel extraction
source :
Target : c:\re-file##.dat
Data Area : cursor bound
channel(s)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

Figure 6-18 RE-FILE (channel) Menu

Target is the file name to be created. Note that "##.dat" is added to the target file name you type where "##" represents 2 digits channel number.

"channel(s)" is to be selected in green for the channel(s) you wish to strip out.

NUMERIC(RAW)

Reads data values in physical unit. Plot data area must be selected with cursor prior to this operation.

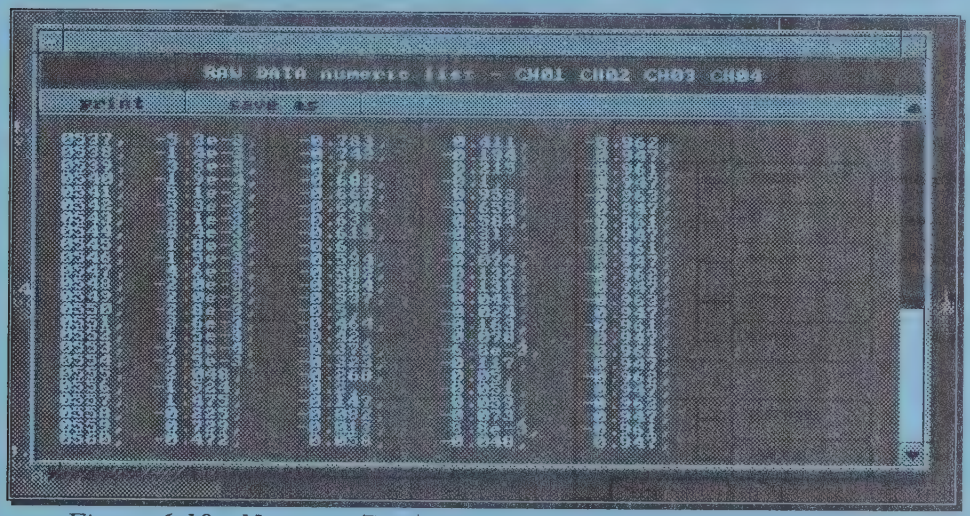


Figure 6-19 Numeric (Raw)

NUMERIC(ANL)

Reads analysis data values. Plot analysis data area must be selected with cursor prior to this operation.

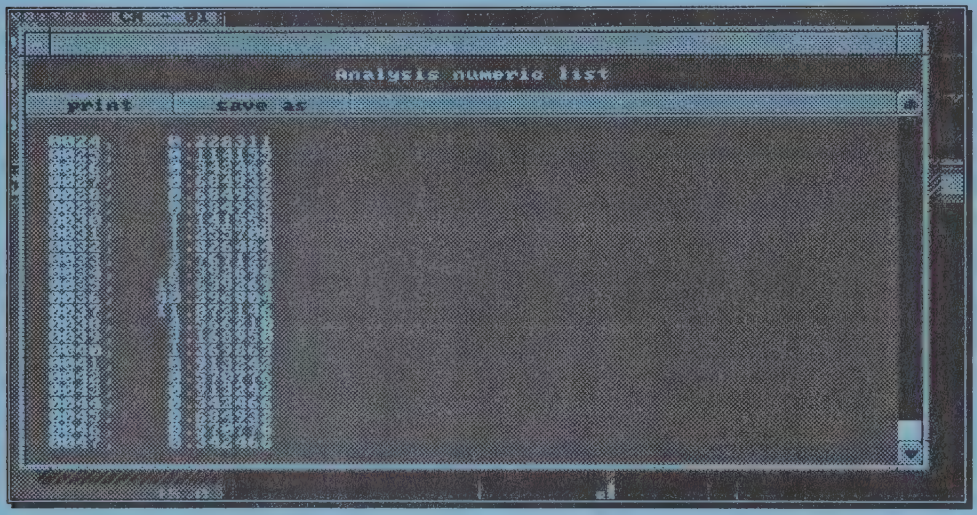


Figure 6-20 Numeric (Analysis)

DOS shell

If you want to perform any DOS command during *QuikVu RX* operation, you may do it from this menu. Be sure to type "EXIT" to return to *QuikVu RX* program.

ANALYSIS Function

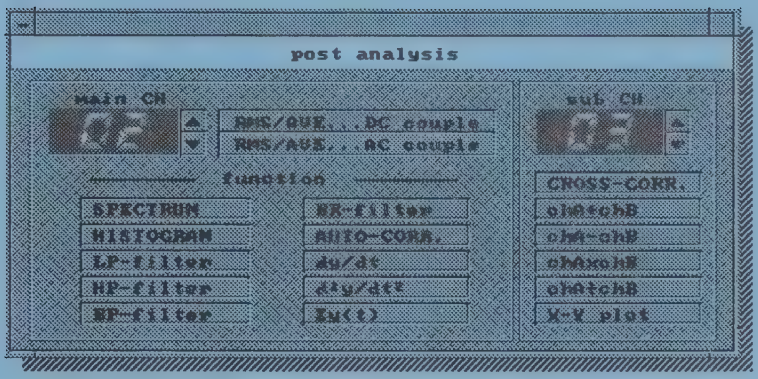


Figure 6-19 Post Analysis Menu

Prior to post analysis, **data must be plotted** first in any data view mode and the data section must be selected with cursors. Analysis is performed on the **selected data section with cursors.**

Selecting analysis channel(s) followed by clicking analysis type, calculates and displays analysis data along with raw data, (Figure 6-2), except **"RMS/AVE..."** which gives a result shown in Figure 6-20.

Zoom is not available in either real time or post analysis.

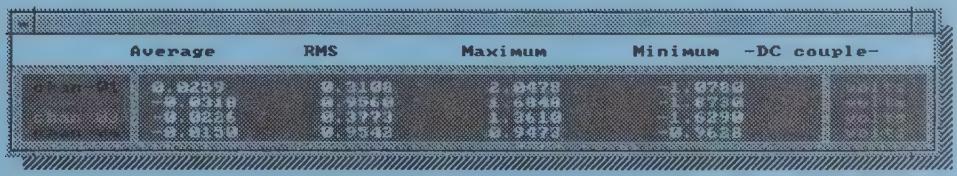


Figure 6-20 RMS / AVE . . . Menu

NOTE : In AVERAGE, RMS, MAX and MIN, numbers are converted to the physical unit value according to the library physical unit conversion table.

analysis type	remarks
spectrum	power spectrum of **full** frequency range.
histogram	bin number can be selected.
low pass filter	FIR low pass filter with order of 10, 20, 40 or 80
high pass filter	FIR high pass filter with order of 10, 20, 40 or 80
band pass filter	FIR band pass filter with order of 10, 20, 40 or 80

band reject filter	FIR band reject filter with order of 10, 20, 40 or 80
auto correlation	plot data volume is reduced to half of cursor selected data.
cross correlation	plot data volume is reduced to half of cursor selected data.
1st differential	target data ± 4 data are used for the calculation
2nd differential	target data ± 4 data are used for the calculation
integration	simply summing over the displayed data
chA + chB	main channel + sub channel. gain or zero shift not affected
chA - chB	main channel - sub channel. gain or zero shift not affected
chA x chB	main channel x sub channel. gain or zero shift not affected
chA ÷ chB	main channel ÷ sub channel. gain or zero shift not affected
X-Y plot	X-Y plot of main channel (x-axis) Vs sub channel (y-axis)

Note: Zoom feature is not available in any of analysis functions.

RETURN Function

Let you go back to the **"Main Menu"**.

APPENDIX A

Data File Format

Header Format

ASCII header

First 384 bytes (128 x 3) of the data file is an ASCII header that can be read by using the MS-DOS "type" command. The header on the data file looks like this:

MEMO	:data file user remarks	
ID	:02	(= ID# 2)
RXE	:920215	(= February 15, 1992)
TIME	:123045	(= 12:30:45)
CH	:00	(= copied all channels)
SKIP	:0009	(= 1 out of 10 data copied)
MPX	:32	(= 32 channel mode)
P.counter	:01045	(= P counter 01045)
COUNTS	:0020	(= data copy time of 20 counts)
SPEED	: x2	(= double speed)
INrange	:[20][20][1][.5][5][2][.5][2]...	(recorded input range)
Revision	:Ver. 3.00	(software revision)

BINARY header

Next 128 bytes (from 385th to 512th byte) contain a binary header. this gives you detail information on the data file. This information is useful for customizing your own program to read ***QuikVu*** data file. Header reading example with C-language routine. First declare the structure below.

```
//Structure for DataFile header (512 bytes). Binary values are in decimal not BCD.
struct HeadInfo {
   char     ascii[383];     // ASCII header info.
   char     eof;            // end of file mark (1Ah)
   char     eofNew;         // QV-3.00 or new flag
   char     begSec;         // RX sec at copy start
   char     begMin;         // RX min at copy start
   char     begHr;          // RX hour at copy start
   char     endSec;         // RX sec at copy end
   char     endMin;         // RX min at copy end
   char     endHr;          // RX hour at copy end
   char     day;            // recorded day
   char     mon;            // recorded month
   char     yr;             // recorded year
   char     fileNo;         // file number (n/a)
```

```
    char        totalFno;       // total file number (n/a)
    char        ch;             // 0=all; 1 to 8=channel #
    char        id;             // ID
    char        mpx;            // mpx mode      [16, 32]
    char        InRange[32];    // input range   [0=ch not used]
                                //               [1=0.5V]
                                //               [2=1.0V]
                                //               [3=2.0V]
                                //               [4=5.0V]
                                //               [5=10.0V]
                                //               [6=20.0V]
    char        InShift[32];    // input zero shift (n/a)
    char        DtFmt;          // data file format 0=BINARY,1=SWAP,2=ASCII...
    char        speed;          // 0=x1;  1=x2
    int         begAt;          // start A-counter
    int         endAt;          // end   A-counter
    int         begPt;          // start P-counter; 00000 to 12900
    int         endPt;          // end P-counter
    int         skip;           // skip factor (0=none)
    int         Tsec;           // copy counts (counter value)
    long        volume;         // total samples volume
    double      fsCh;           // Ch-sample-frequency
    char        Dmy3[23];       // dummy3[] to make 512bytes
};
#define  HEADR      struct HeadInfo
HEADR               Hdr;

// in the function, read header information in the following manner.
{
    FILE *fp;

    if ((fp = fopen ("filename", "rb")) == NULL)  {
        // error routine
    }
    fread (&Hdr, sizeof(Hdr), 1, fp);
    // example of printing beginning P-counter value
    printf ("P-counts = %d", Hdr.begPt);
}
```

Data Format - Binary (IEEE Little Endian)

Format

Intel binary 16 bits integer 2's complement format. One single data has 2 bytes (16 bits) and placed as shown below in the file.

1st data 2nd 3rd 4th
(16bits) (16bits) (16bits) (16bits) ->
[ch1-data] [ch2-data] [ch3-data] [ch4-data] ->

mpx-th mpx+1st mpx+2nd . . .
-> (16bits) (16bits) (16bits) . . .
-> [max mpx ch-data] [ch1-data] [ch2-data] . . .

NOTE : If MPX number is 32 channel, mpx-th is 32nd and it repeats this format. Ttotal data file size is 512 bytes (header) + multiple of MPX value.

Voltage conversion from binary data

[MSB] <- (Bit number) -> [LSB]
bit - [15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0]
effective data bits

The ***QuikVu RX*** data file consists of the A/D data MSB 16 bits. Effective data bits are from bit 0 through bit 15. Refer to the table for the resolution per bit.

recorded input range	voltage / bit
0.5 V	20.000 µV
1.0 V	40.00 µV
2.0 V	80.00 µV
5.0 V	200.00 µV
10.0 V	400.00 µV
20.0 V	800.00 µV

Example:
If the data represents 25 (16 + 8 + 1) in decimal or 0000 0000 0001 1001 in binary and the input range used at recording time is "2V", a voltage conversion is:
25 x 80.0 μV = 2000 μV

Data Format - Binary Byte Swap (IEEE Big Endian)

This format is basically identical to the **Binary (Intel)**, except bytes order in single 2 bytes integer is reversed.
If a single data indicates
1100 0010 1111 1101 in Binary (Intel) format, this is
1111 1101 1100 0010 in Binary (Motorola) format.
(1st byte) (2nd byte)

Data Format - ASCII-I (ASCII integer value)

Format

ASCII data ranges from -32768 to +32767. Data is separated with comma "," [2Ch] within the same sample group and the group is separated with the "CR + LF" [0Dh+0Ah].
It starts with channel 1 in "all channel" data transfer mode.

1st data 2nd 3rd 4th
[ch1-data] [,] [ch2-data] [,] [ch3-data] [,] [ch4-data] ->

mpx-th mpx+1st mpx+2nd . . .
-> [max mpx ch-data] [\r\n] [ch1-data] [,] [ch2-data] . . .

If channel arrangement for MPX mode is 16, ASCII-V data file looks like this:

sample #	ch-1	ch-2	ch-3 ..	.. ch-16	terminator
1st	84,	276,	116, ...	... 36,	[CR,LF]
2nd	-12,	-24,	44, ...	... 76,	[CR,LF]
3rd	29920,	8,	4, ...	... -92,	[CR,LF]

Voltage conversion from ASCII data

ASCII number "1" represents 62.5 µV in ±2V range, therefore in ±20V range, it is 625 µV.

recorded input range	voltage multiply factor
0.5 V	20.000 µV
1.0 V	40.00 µV
2.0 V	80.00 µV
5.0 V	200.00 µV
10.0 V	400.00 µV
20.0 V	800.00 µV

Example: If an ASCII data has a value of 150 and the recorded input range is 2V, the actual voltage you are looking at is:

80.0 µV x 150 (voltage multiply factor) = 12000 µV (or 12.0 mV)

Data Format - ASCII-V (ASCII voltage value)

This format is already converted to voltage with precision of 6. The data layout is identical to the ASCII-I format.

Data Format - MATLAB (MATLAB Level 1.0 MAT-file)

This format is ready to read by MATLAB software using internal structure of Level 1.0 MAT file format.

Data Format - DADiSP (Separate Data and Header file)

The data file is identical to the *QuikVu* standard binary little endian format except the data starts from beginning of the file because the header file is created separately.

Data Format - snapmaster (Separate Data and Header file)

This format is ready to read by HEMs snapmaster software using standard binary format structure. Separate reference (.HDR) and data (.SMA) files are created.

APPENDIX B

RX Sampling Rate

The sampling rate will vary depending on the MPX mode. Please refer to the table:

MPX mode	sampling rate (x2 speed)
16	48000 samples/sec/channel
32	24000 samples/sec/channel

APPENDIX C

View Sample Rate and Plot Volume

The view or plot sampling rate will vary depending on the MPX mode and time scale.

tape speed	CH- mode	T.scale	samples	samples/sec/ch	FFT freq.band[Hz]	decimation
x 2	16 CH	5.0 msec	240	48000	400 - 20000	1/1
		10.0 msec	480	48000	200 - 20000	1/1
		50.0 msec	1200	24000	30 - 10000	1/2
		100.0 msec	1200	12000	20 - 5000	1/4
		500.0 msec	1200	2400	3 - 1000	1/20
		1.0 sec	1200	1200	2 - 500	1/40
	32 CH	5.0 msec	120	24000	400 - 10000	1/1
		10.0 msec	240	24000	300 - 10000	1/1
		50.0 msec	1200	24000	30 - 10000	1/1
		100.0 msec	1200	12000	20 - 5000	1/2
		500.0 msec	1200	2400	3 - 1000	1/10
		1.0 sec	1200	1200	2 - 500	1/20

APPENDIX D

Customer registration form

TEAC America, Inc. IPD Technical support Dept.

This information is used for sending the UPDATED software. Please fill out the form and FAX it to TEAC at 213-727-7658

Company : _____

Address : _____

City, Sate Zip : _____

Telephone : _____ **Fax :** _____

Model : _____ **Serial No. :** _____

Purchase date : _____ **User name :** _____

Comments :

_____

_____

_____

_____

_____

If you find any bug in the software, please let us know. Thank you very much.